Ivan Terekhov
Resume

Name: Ivan Terekhov
Date of birth: January 16, 1980
Place of birth: Shelekhov, Russia
Citizenship: Russian
Languages: Russian, English
Marital status: Married

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EDUCATION

2019: Holder of an Advanced Doctorate (Doctor of Science) in Physical and mathematical Sciences, "Investigation of the effects in the solid state physics and in the mathematical theory of information beyond the framework of the perturbation theory".
2006: Candidate of Sciences (PhD eqv.) in Theoretical Physics, Budker Institute of Nuclear Physics, Theoretical Division. The PhD thesis entitled "Calculation of the radiative corrections to the weak and electromagnetic processes in the strong Coulomb field". PhD thesis supervisor is professor A.I. Milstein.
2003: Master of Science Degree, Particle Physics, Novosibirsk State University, Novosibirsk, Russia.
2001: Bachelor Degree, Physics, Novosibirsk State University, Novosibirsk, Russia.
1997: Gymnasia 1 (high school eqv.), Irkutsk, Russia.

PROFESSINAL APPOINTMENTS

2015-Now: Leading Researcher, Theoretical Department, Budker Institute of Nuclear Physics, Novosibirsk, 630090, Russia.
2021-Now: Associate Professor at theoretical physics chair of Novosibirsk State University, Novosibirsk, 630090, Russia.
2014-2015: Research Associate, The University of New South Wales, Sydney, 2052, Australia.
2007-2014: Senior Researcher, Budker Institute of Nuclear Physics, Novosibirsk, 630090, Russia.
2006-2007: Research Associate, The University of New South Wales, Sydney, 2052, Australia.
2003-2006: Research Associate, Budker Institute of Nuclear Physics, Novosibirsk, 630090, Russia.

SHORT-TERM RESEARCH VISITS

2017: Aston Institute of Photonic Technologies at Aston University, Birmingham, UK, 23.01.2017–14.02.2017.
2015: Aston Institute of Photonic Technologies at Aston University, Birmingham, UK, 15.09.2015–14.11.2015.
2013: Aston Institute of Photonic Technologies at Aston University, Birmingham, UK, 10.01.2013–10.02.2013.
2010: Max-Planck-Institut für Quantenoptik, 85748 Garching, Germany, 01.04.2010–01.05.2010.
2005: Max Planck Institute for Nuclear Physics, Heidelbegr, Germany, 05.05.2006–05.09.2006.

TEACHING

2021-2022: Lecturer for Thermodynamics and Statistical physics at theoretical physics chair of Novosibirsk State University.
2016-2018: Lecturer for Thermodynamics and Statistical physics at theoretical physics chair of Novosibirsk State University.
2011-2014: Lecturer for Quantum Physics at theoretical physics chair of Novosibirsk State University.
2013: Lecturer for Condensed Matter Theory at theoretical physics chair of Novosibirsk State University. 2008-2011: Teaching assistant at theoretical physics chair of Novosibirsk State University. Teaching assistant for courses: Mathematical Method of Physics, Quantum Physics, Quantum Mechanics, Theory of Scattering and Radiation.
2003-2006: Teaching assistant at theoretical physics chair of Novosibirsk State University. Teaching assistant for courses: Mathematical Method of Physics, Quantum Physics, General Theory of Relativity, Quantum Mechanics.

GRANTS, SCORALSHIPS AND AWARDS

2016-2018: Russian Science Foundation, Grant No. 16-11-10133, Investigation of capacity of nonlinear optical fibre communication channels, Project leader.
2006: Dynasty Foundation Scholarship. Scholarship for PhD students and young scientists.
2005: Dynasty Foundation Scholarship. Scholarship for PhD students and young scientists.
2002-2005: 3rd place in the competition for young scientists of the Budker Institute of Nuclear Physics.
2000-2001: Kutateladze Scholarship. Scholarship awarded for achievement in education and science work.

CONFERENCES AND SCHOOLS

2022. Modern Problems of Condensed Matter Theory, Russia, Dubna, October 17-22, 2022.
2021. International Conference on Low-dimensional materials: theory, modeling, experiment, Russia, Dubna, July 12-17, 2021.
2018. SPIE Photonics Europe 2018, France, Strasbourg, April 22-26, 2018.
2018. Photon 2018, UK, Birmingham, September 3-6, 2018.
2018. 27th ANNUAL INTERNATIONAL LASER PHYSICS WORKSHOP, UK, Nottingham, July 16-20, 2018.
2017. 26th ANNUAL INTERNATIONAL LASER PHYSICS WORKSHOP, Russia, Kazan, July 17-21, 2017.
2013. 37th Annual Condensed Matter and Materials Meeting, Australia, Wagga Wagga, February 5-8, 2013.
2007. Gordon Godfrey Workshop on Strong Electron Correlations, Australia, Sydney, September 24-27, 2007.
2006. Summer school "Physics of fundamental interactions 17-27 August 2006, Protvino, Russia.
2004. Conference "Physics of fundamental interactions dedicated to 100th anniversary of ITEP founder academician A.I.Alikhanov (Session of RAS Nuclear Physics Department 2004), Moscow, Russia.
Conference "Physics of fundamental interactions"(Session of RAS Nuclear Physics Department 2003), Moscow, Russia.

KEY SKILLS

- The formulation of new and interesting research problems.

- Analytical and numerical solution of new research problems.
- Computer skills: Fortran, Wolfram Mathematica, Python (beginner).

RESEARCH HIGHLIGHTS

1. Optimal input signal distribution for a nonlinear optical fiber channel with small Kerr nonlinearity, A. V. Reznichenko, A. I. Chernykh, E. V. Sedov, I. S. Terekhov, JOSA B **39**, 810 (2022).
2. Path integral approach to nondispersive optical fiber communication channel, A. V. Reznichenko, I. S. Terekhov, Entropy **22** (6), 607 (2020).
3. Electron-electron interaction in graphene at finite Fermi energy, A. I. Milstein, I. S. Terekhov, Physica E: Low-dimensional Systems and Nanostructures **109**, 73-77 (2019).
5. Impurity-induced magnetization in a three-dimensional antiferromagnet at the quantum critical point, Y. A. Kharkov, I. S. Terekhov, O. P. Sushkov, Phys. Rev. B **92**, 155122 (2015).
6. Wave kinetics of random fibre lasers, D. V. Churkin et al., Nat. Comm. **6**, 1-6 (2015).
7. Conditional probability calculations for the nonlinear Schrödinger equation with additive noise, I. S. Terekhov, S. S. Vergeles, S. K. Turitsyn, Phys. Rev. Lett. **113**, 230602 (2014).
8. Quasilocalized states in a model of electron-electron interaction in graphene, R. N. Lee, A. I. Milstein, and I. S. Terekhov, Phys. Rev. B **86**, 035425 (2012).
9. Induced current and Aharonov-Bohm effect in graphene, R. Jackiw, A. I. Milstein, S.- Y. Pi, and I. S. Terekhov, Phys. Rev. B **80**, 033413 (2009).
10. Screening of Coulomb Impurities in Graphene, I. S. Terekhov, A. I. Milstein, V. N. Kotov, and O. P. Sushkov, Phys. Rev. Lett. **100**, 076803 (2008).
11. Radiative Corrections and Parity Nonconservation in Heavy Atoms, A. I. Milstein, O. P. Sushkov, and I. S. Terekhov, Phys. Rev. Lett. **89**, 283003 (2002).

Full list of publications is available at `https://scholar.google.ru/citations?user=07YbVEMAAAAJ&hl=ru`